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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,692	08/21/2003	Randolph C. Brost	85078CEB	9286

7590 04/01/2005  
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EXAMINER
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MULLER, BRYAN R

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

807

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/645,692	BROST, RANDOLPH C.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Bryan R Muller	3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 3,4 and 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings were received on 1/21/2005. These drawings are replacements for the original drawings filed on 8/21/2003.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6-8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitchell (5,707,279).
3. Mitchell discloses an abrasive tool comprising a substantially rigid support member (10) having an outer perimeter for cooperating with a tool (abstract, line 4), said outer perimeter terminating at one end in a mounting surface (12), a polishing member (14) mountable to said mounting surface of said substantially rigid support member, said polishing member having a plurality of spaced lobes (44-49), nearest adjacent ones of said plurality of spaced lobes being separated by a recessed portion (30-35), said nearest adjacent ones of said plurality of spaced lobes projecting outwardly from the recessed portion (36, 37), said recessed portion capable of forming a fluid transport region when nearest adjacent lobes are in compressive contact with a surface to be polished. Said polishing member being formed of a polymeric material such as black nitrile with a shore A hardness from about 40 to about 60, preferably from 45 to 60 (col.

4, lines 28-31). The term lobe is defined as: A rounded projection<sup>1</sup>, and the projections of Mitchell are rounded on the outer edge, thus meeting the definition of Lobes.

### **Claim Rejections - 35 USC § 102/103**

4. Claim 9 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mitchell ('279).

5. Claim 9 states that the polishing member is mounted to the support member by chemical bonding. This appears to be a product by process wherein the product itself does not depend on the process for making it. Mitchell discloses an abrasive tool as discussed supra and discloses that the arbor body (polishing member) is molded onto the mandrel (support member) (col. 4, lines 27-28). Therefore the bonding that occurs between the polishing and supporting members will be inherently the same and the products from each process will be indistinguishable from each other.

### **Claim Rejections - 35 USC § 103**

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teng (6,267,642 B1) in view of Mitchell ('279).

8. Teng discloses a retaining ring for a polishing head comprising a toroidal shaped (col. 6, line 1) polishing member (40) designed to be rotated in a clockwise direction (col. 5 lines 18-21), having a plurality of spaced compliant polishing portions (44), nearest adjacent ones of said plurality of spaced compliant polishing portions being separated by a recessed portion (42), said recessed portion capable of forming a fluid transport region (col. 5, lines 20-22) when nearest adjacent compliant polishing portions are in compressive contact with a surface to be polished. Teng, however, fails to disclose a substantially rigid support member having an outer perimeter for cooperating with a tool said outer perimeter terminating at one end in a mounting surface intended to receive said polishing member. Mitchell discloses a similar abrasive tool as discussed supra with a substantially rigid support member having an outer perimeter for cooperating with a tool said outer perimeter terminating at one end in a mounting surface attached to a polishing member. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to provide the invention of Teng with a substantially rigid support member having an outer perimeter for cooperating with a tool said outer perimeter terminating at one end in a mounting surface intended to receive said polishing member to allow for the polishing head to be engaged by a variety of power or hand tools to be rotated in the clockwise direction in order to polish a variety of objects while transporting fluid such as slurry to the face of the object being polished, thus making the invention of Teng more universally used with

multiple tools and more easily transported without the need to also transport a set drive means.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell ('279) in view of Lupi ('5,655,958).

10. Mitchell discloses the abrasive tool as discussed above, but fails to disclose that the polishing member has a continuous groove formed in a circumferential portion thereof. Lupi, however, discloses a grinding wheel for smoothing and polishing that has a continuous groove formed in a circumferential portion that is congruent with the contour of the material to be smoothed or polished (abstract, lines 7 and 8). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to provide the polishing member of Mitchell with a continuous groove formed in a circumferential portion that is congruent with the contour of the material to be smoothed or polished in order to make the abrasive tool more specialized for its particular application which would make the tool more efficient for the polishing of a particular shape, therefore, reducing time spent on each piece to be polished and minimizing the effort to polish such surfaces.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell ('279) in view of Cika (5,765,259).

12. Mitchell discloses the abrasive tool as discussed above wherein the polishing element is molded onto the support member, but fails to disclose that it may be

mounted by chemical bonding. Cika teaches that portions of a product can be fabricated separately and then joined by chemical bonding (col. 7, lines 17 and 18) and that this process will make use of smaller quantities of material and/or minimize problems associated with shrinkage, uneven cooling and the like that may be encountered if the product portions are to be injection molded (col. 7, lines 26-31). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to mount the polishing element onto to the support member by chemical bonding in order to save material, thus lowering cost, and minimize problems associated with shrinkage, uneven cooling and the like during production.

#### ***Response to Amendment***

13. The terminal disclaimer filed on 1/21/2005 under 37 CFR 1.131 is sufficient to overcome the Meissner (10/318,787) reference.

#### ***Response to Arguments***

14. Applicant's arguments filed 1/21/2005 have been fully considered but they are not persuasive.

Applicant's argument that the Mitchell reference fails to anticipate claim 1 because the Mitchell reference fails to disclose lobes projecting outwardly from a recessed portion or that the recessed portion of the Mitchell reference forms a fluid transport region when nearest adjacent lobes are in compressive contact with a surface to be polished is not persuasive. As discussed *supra*, the projections of the Mitchell



reference meet the definition of a lobe in that the outer surface is rounded and although the Mitchell reference does not disclose the use of fluid, the slots of Mitchell are inherently capable of acting as fluid transports when nearest adjacent lobes are in compressive contact with a surface to be polished and therefore, the original rejections of claims 6-9 and 13 are maintained using the Mitchell reference.

The argument that the Mitchell reference teaches away from the claimed invention is also not persuasive. The applicant argues that the fingers of Mitchell would actually draw fluid away from the surface to be polished due to a perpendicular orientation of the slots in reference to the surface to be polished. On the contrary, the orientation of the slots in the Mitchell apparatus would cause the slots to gather fluid and the centripetal force caused by rotation of the apparatus would inherently push the fluid to the outer periphery of the apparatus and, thus, distribute the fluid to the surface to be polished during polishing.

The argument that claims 1 and 2 are improperly rejected based on the Teng and Mitchell references is also found to be non-persuasive. Applicant argues that the Mitchell reference defines the arbor body in great detail and does not suggest any other embodiment, which is correct, but the rejection based on the Teng and Mitchell references uses the Tang reference as a base reference, which teaches the toroidal shape and all of the claimed properties of the polishing member and the Mitchell reference is only used to teach the mounting of the polishing member to a rigid support member to make the polishing member more universally usable and more portable.



The argument that claim 5 is improperly rejected based on the Mitchell and Lupi references is also found to be non-persuasive. Applicant argues that the Lupi reference does not disclose a grinding wheel for smoothing and polishing that has a continuous groove formed in a circumferential portion that is congruent with the contour of the material to be smoothed or polished, which is found in the abstract as discussed supra and in the previous action, and that the Lupi reference does not disclose a continuous groove deployed around a circumferential portion. As stated previously, the Lupi abstract discloses, "an external shape (shown as a groove) congruent with that of the contour of a material to be smoothed or polished" (lines 7 and 8). Further, figures 1 and 2 of Lupi clearly show that the grinding wheel has a circumferential shape and all of the figures show that this shape (a groove defined as: A long, narrow furrow or channel.<sup>2</sup>) is deployed around the circumferential portion of the Lupi apparatus.

The final argument that claim 9 is rejected improperly based on the Mitchell and Cika applications is also not persuasive. Applicant argues that the Cika apparatus is a different non-analogous art to the Mitchell apparatus, which is true, but the examiner is only using the teachings of Cika that chemical bonding is a preferred way to form compound products over injection molding. These teachings apply to any art that contains materials that may be chemically bonded or injection molded and therefore, the rejection is proper.

### ***Conclusion***

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7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan R Muller whose telephone number is (571) 272-4489. The examiner can normally be reached on Monday thru Thursday and second Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J Hail III can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3723

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BRM

3/28/2005

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